

REMARKS/ARGUMENTS

The limitation of a phosphorescent compound to be "an Ir compound", which was inserted into Claim 1, is supported by the description of page 68, line 18-25 of the present specification.

The Objection to an error in claim 14 is avoided by amendment to reflect the original claim 14.

Anticipation rejections:

(1) Claims 11, 12 and 15 are rejected under 35 USC 102(b) as being anticipated by Tomiuchi et al. (GB 2357180A).

(2) Claims 11, 12 and 15 are rejected under 35 U.S.C. 102(e) as anticipated by Kawaguchi et al. (US 2003/0051781).

(3) Claims 1-3 and 6-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Bellmann et al. (US 2003/0068525).

(4) Claims 1, 2, 6 and 8-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kitano et al. (US 2004/0109955).

Tomiuchi et al. (GB 2357180) is cited with respect to method claims 11, 12 and 15 to show a cyclodextrin derivation in the context of a color conversion filter fluorescent dye. However,

the method of Tomiuchi uses a cyclodextrin derivative, which is different from the multi-branched structure presently required in claim 11. In addition, Tomiuchi does not teach to encapsulate an Ir phosphorescent compound. Instead, Tomiuchi teaches to use a cyclodextrin derivative with a fluorescent dye. Therefore, Tomiuchi does not anticipate claims 11, 12 and 15.

Kawaguchi et al., Bellmann et al. and Kitano et al. each discloses a compound which is similar to the multi-branched structure compound of the present claim. However, there is no teaching or suggestion of encapsulating an Ir phosphorescent compound or a method for encapsulating an Ir compound in any one of these references. Therefore, none of claims 1 to 3 and 6 to 16 is anticipated by these references.

Specific effects obtained by the encapsulation are described in page 72, lines 8-14 of the present specification as follows:

"The concentration quenching of in the layer the encapsulated organic electroluminescent light emission material can be inhibited and the efficiency and the life of the light emission can be improved by using the multi-branched structure compound prepared by such the easy method in the organic electroluminescent article."

The above-described effect of "inhibition of concentration quenching of the light emission material" cannot be obtained by a

conventional mixing with a light emitting material, The present invention was achieved by a multi-branched structure compound encapsulating a light emitting material of an Ir compound.

Concerning Kitano et al., the Examiner notes that the polymer may be mixed with a light emitting substance. The present claims require encapsulation. Thus, Kitano et al. does not show or suggest the encapsulation of a light emitting substance or provide enablement or motivation to do so. Therefore Kitano et al. do not anticipate any of the claims or render claims 3, 7 and 14 obvious.

Concerning Bellmann et al., whether or not Bellmann et al. disclose various compounds that meet the limitation of a multi-branched structure compound required in the present claims, Bellmann et al. are silent to encapsulation of a compound or a method to do so. The technology used in Bellmann et al. is a conventional mixing. Bellmann et al. have no intention to improve the efficiency and the life of the light emission by inhibition of concentration quenching of the light emission material by means of encapsulation of a light emitting compound with a multi-branched structure compound. Therefore,

Bellmann et al. do not show the presently claimed invention, or render it obvious.

The Examiner relies on Bellmann et al. as disclosing to use iridium compound with a multi-branched structure compound in paragraph [0072] and reasons that this iridium compound corresponds to a phosphorescent compound as recited in the present claims. However, the iridium compound is one of the various compounds which may be used in a method of mixing with a multi-branched structure compound of Bellmann et al. However, simple mixing is not encapsulation as discussed above, and Bellmann et al. use the compounds recited in [0072] by simple mixing, not by encapsulating as specifically required in applicants' claim 1 and claim 11.

From the description of Bellmann et al., an ordinary person skilled in the art will not use the compounds recited in [0072] of Bellmann et al. in the state of encapsulation.

Therefore, not only does the art does not disclose the multi-branched structure compound encapsulating a light emitting material of an Ir phosphorescent compound or a method of

preparation as detailed above, none of this art renders claims 1 to 3 and 6 to 16 obvious.

II. Obviousness rejection:

Claims 3, 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitano et al. (US 2004/0109955). For the reasons discussed above, it is respectfully submitted that Kitano et al. do not show or suggest applicants' claims 3, 7 and 14 which depend directly or indirectly on applicants' claim 1 or claim 11.

Furthermore, the features of the presently claimed invention include the following:

(i) the multi-branched structure encapsulates a light emitting material; and (ii) that the light emitting material is a phosphorescent compound of an Ir compound .

Moreover, as detailed above, it was demonstrated that when an organic electroluminescent element contains the multi-branched structure compound having the above-described features, it exhibited a very high external quantum yield and a very long emission life compared to the organic electroluminescent element without using the multi-branched structure compound having the

above-described features. This is evidenced in the Tables in the present specification and is described on page 72, lines 8-14, as follows:

"The concentration quenching of in the layer the encapsulated organic electroluminescent light emission material can be inhibited and the efficiency and the life of the light emission can be improved by using the multi-branched structure compound prepared by such the easy method in the organic electroluminescent article."

The above-described effect of "inhibition of concentration quenching of the light emission material" cannot be obtained by a conventional mixing with a light emitting material. The presently claimed invention was achieved by a multi-branched structure compound encapsulating a light emitting material of an Ir compound.

Therefore, the art does not disclose or suggest the multi-branched structure compound encapsulating a light emitting material of an Ir phosphorescent compound or a method to make such a compound as required by applicants' present claims.

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In view of the above, the prior art rejections are avoided.
Allowance of the application is therefore respectfully requested.

Respectfully submitted,



RICHARD S. BARTH
Reg. No. 28,180

Holtz, Holtz, Goodman
& Chick, P.C.
220 Fifth Ave., 16th Floor
New York, NY 10001-7708
Tel. No.: (212) 319-4900
Fax No.: (212) 319-5101

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